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## DESCRIPTIONS OF SOME NEW SPECIES OF FUNGI.

By J. B. ELLIS.

*PODAXON MEXICANUM* *n. sp.*—On the ground in a garden, near the bay, at Ajia Bampo, Sonora, Mexico, November, 1890. (Dr. Edward Palmer.) Whole plant, 4–8<sup>cm</sup> high. Stipe about 1<sup>cm</sup> thick at the base, tapering above and running through to the vertex of the peridium; subbulbous, hollow, the cavity at first filled with silky fibers. Flesh white, except at the point where it enters the peridium, where it is of a bright orange color (within). Peridium ovate, 2–3½<sup>cm</sup> high, 2–3<sup>cm</sup> wide, thin, white, and like the stipe clothed with broad, yellowish, appressed scales, attached to the stipe below at first, then separating, with the margin laterate-sublobate. Capillitium attached to the stipe or to the inner surface of the peridium, consisting of branching, yellowish threads 3–8 $\mu$  in diameter, with abundant yellowish olive globose or ovate, 8–12 $\mu$  spores, with some larger (12–15 $\mu$ ) ones intermixed.

*UROMYCES RHYNOSPORÆ* *n. sp.*—On *Rhynchospora glomerata*. Pennsville, Salem County, N. J., October, 1881. (A. Commons.) I and II not seen. (III.) Sori hypophyllous, scattered or aggregated and subconfluent, orbicular or subelongated, ½–1<sup>mm</sup> in diameter, black, naked, and loosely embraced by the margin of the ruptured epidermis. Teleutospores clavate, 20–25 by 8–12 $\mu$ , strongly thickened and darker colored at the apex, which is generally at first prolonged into a beak 10–12 $\mu$  long, making the spore lanceolate; sometimes this beak is permanent, but oftener the spore becomes obtuse or even squarely or obliquely truncate. Pedicels 20–25 $\mu$  long, subequal or slightly thickened at the base, hyaline or yellowish. This species is different from *Uromyces caricis* Peck. [Which has been shown by Dietel, in *Hedwigia*, vol. 28, p. 22, to be the uredo of *Puccinia caricis-strictæ* Dietel.—ED.]

*PUCCINIA MICROICA* *n. sp.*—On *Sanicula*(?). Garrett Park, Md., May, 1890. (E. A. Southworth.) Æcidia hypophyllous, crowded on slightly thickened suborbicular spots 1½–2<sup>mm</sup> across, papilliform and closed at first, then open, shallow, cup-shaped, ¼<sup>mm</sup> in diameter, with a narrow granular-stellate, evanescent border. Spores orange, subglobose 15–22 $\mu$ , or more or less irregular. Uredospores in the same sori with the teleutospores, not abundant, subglobose, pale, faintly aculeolate, 18–22 $\mu$  in diameter. Teleutospores in minute sphaeriiform sori mixed with the æcidia, about ¼<sup>mm</sup> in diameter, at first covered by the epidermis, then naked above and dark brown, mostly biconical (some of them oblong or elliptical). Slightly constricted, pale brown, with a small, prominent hyaline, central or oblique papilla at the apex, 25–45 by 14–20 $\mu$ , with very short pedicels. Epispore smooth.

*PUCCINIA MONTANENSIS* *n. sp.*—On *Elymus condensatus*. Helena, Mont., July, 1891. (Rev. F. D. Kelsey). I and II not seen. (III.) Sori mostly linear, lying between the nerves of the leaf and often con-

fluent for 1<sup>cm</sup> or more long, so very abundant as to blacken the leaf, hypophyllous, black, at first covered by the epidermis, but soon bare, not prominent. Teleutospores ovate or elliptical, 25–50 by 15–22 $\mu$ , sessile or nearly so, moderately constricted at the septum, apex rounded or flattened, sometimes obliquely flattened, strongly thickened, but not papillate, darker colored and mostly shorter and broader than in *P. rubigo-vera*. The sori are mostly surrounded by paraphyses. The habit also is different.

*PUCCINIA SUBCOLIAPSA* *n. sp.*—On leaves and stems of some plant of the order *Asclepiadaceæ*, collected in South America by Thomas H. Morong. (Communicated by Mrs. E. G. Britton.) (III.) Sori amphigenous, hemispherical, chestnut-colored,  $\frac{1}{3}$ – $\frac{1}{2}$ <sup>mm</sup> in diameter, thickly and quite evenly scattered over the leaves and stems. Teleutospores ovate, elliptical or subglobose, 18–22 by 12–15 $\mu$ , slightly constricted in the middle, pale brown. Epispore thin and smooth, often collapsing at the apex and sometimes also at the base, causing the two cells to appear as if pressed together and giving the spore a subcubical shape. Pedicels slender, about 60–75 $\mu$  long, attenuated below and hyaline, slightly colored above. Some of the spores are without septa. Differs from *P. heterospora* B. & C. in habit and in its thin-walled, after collapsed teleutospores.

*UREDIO ERIOCOMÆ* *n. sp.*—On leaves of *Eriocoma cæspitosa*. Mohave Desert, Kern County, Cal., May, 1892. (D. W. Coquillett.) Sori hypophyllous, oblong, 1–4<sup>mm</sup> long, pulvinate, soon naked, dark chestnut color. Uredospores globose, 20–25 $\mu$  in diameter, or ovate 22–30 by 20–25 $\mu$ , hyaline at first, soon becoming chestnut brown. Epispore thick, nearly equally so all round, short tubercular-spinulose; pedicels short, equal, hyaline. Differs from *U. boutelouæ* Arthur in the absence of any spots, the larger sori, and equally thickened epispore.

*UREDIO SIMILIS* *n. sp.*—On leaves of *Lycium vulgare*. Brookfield, Ind., November, 1890. (E. M. Fisher, No. 417.) Sori amphigenous, orbicular,  $\frac{1}{2}$ <sup>mm</sup> in diameter, yellow, becoming pale brown, scattered, flattened, not on spots. Spores obovate, 22–35 by 15–20 $\mu$ , rounded and slightly thickened and aculeate above, narrowed and smooth below, hyaline, becoming yellow. Pedicels very short. Differs from the *Uredo* of *Puccinia lycii* Kalk. in the absence of any spots and in its larger, obovate spores. *P. afra* Winter has uredospores aculeate above and smooth below, but oblong and larger. *P. tumidipes* Pk. also has larger uredospores aculeate at both ends. Possibly our *Uredo* may prove to belong to *Puccinia globosipes* Pk., of which the uredoform is as yet unknown.

*TILLETIA RUGISPORA* *n. sp.*—In ovaries of *Paspalum plicatulum*. College Station, Brazos County, Tex., 1889. (T. L. Brunk.) Mass of spores snuff-gray, filling the ovaries. Spores globose, rather pale brown, 15–22 $\mu$  in diameter, tuberculose-reticulate, the reticulations about 1 $\mu$  high and 1 $\frac{1}{2}$  $\mu$  broad. The affected ovaries are scarcely changed in outward appearance.

**ASTERNIA RADIANS** *n. sp.*—On living leaves of *Capparis cynophallophora*. Florida, 1891. (No. 256, Simpson's collection.) Perithecia hemispherical, black, rough, with a black, shiny, compressed or subpyramidal ostiolum, finally collapsing slightly above; about  $\frac{1}{4}$  mm in diameter; hemispherical; densely crowded and radiately arranged in orbicular patches 3–4 mm in diameter on the upper side of the leaf. Asci elliptical, briefly stipitate, 35 by  $20\mu$ , distinctly paraphysate, paraphyses slightly thickened at the apex. Sporidia 8 in an ascus, ovate, 12–15 by  $5-5\frac{1}{2}\mu$ , uniseptate, slightly constricted at the septum, yellowish hyaline, becoming brown.

**ACANTHOSTIGMA FRAXINI** *n. sp.*—On leaves of living *Fraxinus americana*. Near Washington, D. C., August, 1889. (M. B. Waite.) Perithecia epiphyllous, scattered, superficial, black, sub-hemispherical, about  $150\mu$  in diameter, of parenchymatous texture (astomous?), covered with short, black, scattering, spreading bristles 30–40 by  $4\mu$ . Asci subovate, about 35 by  $15\mu$ , short-stipitate 4 (–8)? spored. Sporidia (as far as seen) 4 in an ascus, clavate, 3–4-septate, 25–30 by  $4-5\mu$ , deeply constricted at the septa, yellowish or greenish hyaline. The upper cell of the sporidium is elliptical and broader and shorter than those below. The leaf is mottled with reddish brown spots and the perithecia are scattered alike over these spots and over the green parts of the leaf.

**CONIOTHYRIUM MUSCICOLUM** *n. sp.*—On capsules of *Polytrichum*. Carlin, Va., August, 1892. Perithecia lenticular, membranaceous, black, astomous,  $75-90\mu$  in diameter, covered by the thin epidermis, through which it is distinctly visible. Sporules globose, yellow brown, 8– $10\mu$ . This resembles outwardly *Stagonospora ravii* Ell. on the same host, but the sporules are very different.

**STAGONOSPORA BACCHARIDIS** *n. sp.*—On living leaves of *Baccharis*. Virginia Beach, Va., under pine trees, May 28, 1891. (W. T. Swingle.) Epiphyllous. Perithecia superficial or nearly so, hemispherical,  $110-120\mu$  in diameter, broadly perforated above, black, of tolerably coarse cellular texture. Conidia broad-fusoid, yellowish hyaline, 2-septate, nearly straight, 25–30 by  $6-7\mu$ , arising directly from the cells of the proligenous layer, with no perceptible basidia.

**SEPTORIA AMPELOPSIDIS** *n. sp.*—On leaves of *Ampelopsis quinquefolia*. Oregon, Ill., September 14, 1889. (M. B. Waite.) Spots numerous, angular or otherwise irregular, limited by the veinlets of the leaf, subconfluent, greenish at first, becoming dark brown, occupying the greater part of the leaf, which becomes mottled with yellow. Perithecia buried in the parenchyma of the leaf, but prominent on both surfaces, subglobose,  $80-100\mu$  in diameter, perforated. Sporules vermiform or clavate-cylindrical, hyaline, 30–50 by  $3-3\frac{1}{2}\mu$ , 4–8-septate. This approaches *Cylindrosporium* on account of the imperfectly developed perithecia.

**SEPTORIA MICROSPORA** *n. sp.*—On leaves of *Asprella hystrix*. Crawfordsville, Ind., August, 1890. (E. M. Fisher, No. 101.) Perithecia

innate, small, about  $30\mu$  in diameter, visible on both sides of the leaf, but more prominent and mostly opening on the upper side, pale, seated on rusty yellowish or reddish brown, elongated, narrow, subconfluent spots. Sporules cylindrical, continuous, 6–12 by  $1-1\frac{1}{4}\mu$ . The leaves finally become rusty brown and dead, especially at the points.

**SEPTORIA LEUCOSTOMA** *n. sp.*—On living leaves of *Fraxinus americana*. Urmeyville, Ind., August, 1890. (E. M. Fisher, No. 136.) Spots reddish brown, irregular in shape,  $1\frac{1}{4}-\frac{1}{2}\text{cm}$  in diameter, or by confluence occupying a large part of the leaf, surrounded by a yellow, shaded border about the same on both sides of the leaf. Perithecia scattered on the spots, large, 200–230 $\mu$  in diameter, lenticular, amphigenous, but more prominent on the upper side of the leaf, pierced with a large, round, white-margined opening above. Sporidia fusoid, mostly strongly curved, nucleate, becoming about 3-pseudoseptate, 20–30 by  $2\frac{1}{2}\mu$ . Seems to differ from *S. elaeospora* Sacc. in its much larger perithecia and strongly curved sporidia.

**SEPTORIA PIMPINELLÆ** *n. sp.*—On leaves of *Pimpinella integerrima*. Winona, Minn., August, 1888. (J. M. Holzing.) Perithecia amphigenous, scattered, not on any spots, erumpent, 120–130 $\mu$  in diameter. Sporules short (15–20 $\mu$ ), curved, continuous, hyaline, about  $1\frac{1}{4}\mu$  thick at the broader end, resembling the sporules of a *Phlyctæna*. Some of the perithecia contain short, oblong fusoid 2-nucleate sporules 6–9 by  $2\frac{1}{2}\mu$ , hyaline (*Phyllosticta* sp.). The *Septoria* has the sporules shorter than in any of the other described species on *Umbelliferae*.

**SEPTORIA RUMICIS** *n. sp.*—On leaves of *Rumex* sp. Winona, Minn., August, 1888 (J. M. Holzing), and Champaign, Ill., September, 1889. (M. B. Waite.) Spots amphigenous, grayish brown, becoming rusty brown and paler in the center, with a narrow, slightly raised border surrounded by a dark-shaded border while the leaf is fresh, 3–4 $\text{mm}$  in diameter. Perithecia punctiform, brown, scarcely visible, buried in the substance of the leaf with only the minute apex showing, most distinct on the lower surface of the leaf, but also visible above. Sporules cylindrical, curved, obtuse, continuous, faintly nucleate, subequal, 15–25 by  $1\frac{1}{2}-2\mu$ .

**PHLYCTÆNA ANDERSONI** *n. sp.*—On dead stems of *Arabis holboëllii* and *Draba* sp. Sand Coulee, Cascade County, Mont., July, 1888. (F. W. Anderson.) Perithecia gregarious on pale spots, subcuticular, conic-globose, at length collapsing, raising the epidermis into little black pustules, having the aspect of a *Sphærella*. Sporules fusoid arcuate hyaline, acute at each end, continuous, 12–15 by  $2\frac{1}{2}\mu$ . Some of the pale spots on which the perithecia are seated are tinged with rose color.

**CYLINDROSPORIUM STACHYDIS** *n. sp.*—On *Stachys palustris*. Champaign, Ill., September, 1888. (M. B. Waite.) Spots amphigenous, small (1–2 $\text{mm}$ ) rusty brown, becoming nearly black, with a whitish center, subangular and tolerably well defined. Acervuli small, innate, slightly

prominent on the lower surface of the leaf. Conidia filiform, mostly curved, a little thicker at one end, subobtusate, hyaline, multinucleate, becoming multiseptate, 35–50 by  $2\mu$ , erumpent below and whitening the surface of the spots. This differs from the specimen of *Septoria stachydis* Rob. in Desm., *Plantes Crypt.*, 1712, in its smaller, darker, more definitely limited spots, and its thicker, multinucleate conidia.

*STILBOSPORA VARNEYANA* n. sp.—On dead twigs. Grounds of the Department of Agriculture, Washington, D. C., September, 1891. (Collected by F. W. Anderson, communicated by May Varney.) Acervuli subcutaneous, subtuberculiform-prominent, conidia oblong-elliptical, 3-septate, not constricted, hyaline at first, soon becoming dark brown and opaque, except the terminal cells, which are small and remain subhyaline, 15–25 by 12–14 $\mu$ . Differs from *S. angustata* Pers. in its smaller conidia, with the end cells hyaline.

*TUBERCULINA SOLANICOLA* n. sp.—On fruit of eggplant. Fla. (C. E. Smith.) Acervuli erumpent, tuberculiform,  $\frac{1}{8}$  mm in diameter, at first pale, becoming darker when dry, gregarious on pallid spots, 1 cm in diameter, or by confluence more. Basidia 12–15 by 2–2½ $\mu$ , guttulate, hyaline, attenuated and slightly curved above. Conidia elliptical, 2-nucleate, hyaline, 5–7 by 2½–3 $\mu$ . Differs from the other species of this genus in not being (so far as yet known) associated with any Uredinous fungus.

#### FUNGI DESCRIBED IN RECENT REPORTS OF THE CONNECTICUT EXPERIMENT STATION.

By ROLAND THAXTER.

In the reports of the Connecticut Station for 1889–'91 the writer had occasion to publish descriptions of certain new species of fungi which it seems desirable to duplicate in a form more permanent and readily accessible than that afforded by the somewhat evanescent Experiment Station literature, and through the courtesy of the editor of the *JOURNAL* the descriptions in question are appended, with a few additional notes.

#### UROCYSTIS HYPOXYIS Thaxter.

Ann. Rep't. Conn. Agr. Exp. Sta. in descr. of Pl. II, following p. 153: Pl. II, Figs. 12–14, New Haven, April, 1890. Ellis N. A. F., Cent. xxvii, No. 2688. Sacc. Syll., Vol. ix, p. 290. Pazschke, *Hedwigia*, 1892, p. 94.

Spore masses black, in flowers (filling ovary), pedicels, and peduncles (only near summit). Spore balls very irregular in size and shape, roundish or long oblong, the largest 50–60 by 50 $\mu$ , the smallest about 25 by 25 $\mu$ . Resting spores brown, spherical or somewhat polygonal from pressure, one to ten, rarely 14 to 15 in number, 13–15 $\mu$ . Pseudospores numerous, and when the resting spore is single about 8 to 10 in number, somewhat flattened, variable, 8–15 $\mu$  in diameter. On *Hypoxys erecta* L. June–Aug., Westville, Conn.